In re: Dougal
Serial No. 09/529,210
Filed: July 24, 2000
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In the Claims:

1. (Currently Amended) An electromagnetic radiation therapy system comprising means for emitting divergent electromagnetic radiation at a wavelength centered at~~, or about,~~ 1072nm or at a wavelength centered at~~, or about,~~ 1268nm so as to coincide with peak transmissions of a water molecule, the total bandwidth being restricted so as not to exceed the bandpass filter effect characterized by the transmission spectrum of the water molecule between 980nm and 1300nm, the system being capable of producing, at the site being treated, a radiation intensity of at least 50 μWatts/cm^2 and up to 2 Watts/cm^2.

2-4. (Canceled).

5. (Previously Presented) An electromagnetic radiation therapy system according to Claim 1 wherein the half angle divergence of the electromagnetic radiation is in the range 15° to 45°.

6. (Previously Presented) An electromagnetic radiation therapy system according to Claim 1 wherein the electromagnetic radiation is continuous or pulsed.

7. (Previously Presented) An electromagnetic radiation therapy system according to Claim 1 wherein the electromagnetic radiation is continuous, and the intensity is at least 50 μWatts/cm^2 for treatment of eyes and mucous membranes and up to 2 Watts/cm^2.

8. (Previously Presented) An electromagnetic radiation therapy system according to Claim 1 wherein the electromagnetic radiation is continuous, and the intensity is at least 500 μWatts/cm^2 for treatment of skin and up to 2 Watts/cm^2.

9. (Previously Presented) An electromagnetic radiation therapy system according to Claim 1 wherein the electromagnetic radiation is pulsed, and the intensity is at least 50

μWatts/cm^2 peak power for treatment of eyes and mucous membranes and the average power is up to 2 Watts/cm^2.

10. (Previously Presented) An electromagnetic radiation therapy system according to Claim 1 wherein the electromagnetic radiation is pulsed, and the intensity is at least 500 μWatts/cm^2 peak power for treatment of skin and the average power is up to 2 Watts/cm^2.

11. (Previously Presented) An electromagnetic radiation therapy system according to Claim 1 wherein the electromagnetic radiation is pulsed, and the average power of the pulsed electromagnetic radiation intensity is in the region of 50-100μWatts/ cm^2.

E1 cont.

12. (Previously Presented) An electromagnetic radiation therapy system according to Claim 1 wherein the electromagnetic radiation is pulsed, and the pulsed electromagnetic radiation is applied for pulse duration periods of at least 10-15 μseconds.

13. (Previously Presented) An electromagnetic radiation therapy system according to Claim 1 wherein the electromagnetic radiation is pulsed, and the pulsed electromagnetic radiation is applied at a frequency/repetition rate in the range 480-800 Hz.

14. (Previously Presented) An electromagnetic radiation therapy system according to Claim 13 wherein the frequency/repetition rate is at, or about, 600 Hz.

15. (Previously Presented) An electromagnetic radiation therapy system according to Claim 1 wherein the electromagnetic radiation is pulsed, and the pulsed electromagnetic radiation is applied to the affected area for at least 30 seconds and up to 15 minutes.

16. (Previously Presented) An electromagnetic radiation therapy system according to Claim 1 wherein the electromagnetic radiation therapy system also includes means for reducing the amount of ambient radiation which impinges on the site of treatment.

17. (Previously Presented) An electromagnetic radiation therapy system according to Claim 16 wherein the means for excluding ambient radiation excludes radiation below 400-500 nm.

18. (Previously Presented) An electromagnetic radiation therapy system according to Claim 1 further including means for fixing the intensity of the radiation within a predetermined range.

19. (Previously Presented) An electromagnetic radiation therapy system according to Claim 1 wherein radiation output is monitored with a visible display indicating correct function of the device both for intensity and wavelength.

E1 cont.

20. (Previously Presented) An electromagnetic radiation therapy system according to Claim 1 further including means for controlling the duration of the application of the radiation.

21. (Previously Presented) An electromagnetic radiation therapy system according to Claim 1 wherein the radiation producing means are solid state light emitting devices.

22. (Previously Presented) An electromagnetic radiation therapy system according to Claim 21 wherein the solid state light emitting devices are solid state light emitting diodes or gas discharge devices or a laser diode device.

23. (Previously Presented) An electromagnetic radiation therapy system according to Claim 21 wherein radiation from said solid state light emitting devices is electrically operated or delivered to an applicator via a fibre-optic delivery system.

24. (Previously Presented) An electromagnetic radiation therapy system according to Claim 21 wherein the means for emitting includes a PN junction arranged to emit radiation

with a wavelength centring at, or about, 1072nm or at, or about, 1268 nm.

25. (Previously Presented) An electromagnetic radiation therapy system according to Claim 24 comprising a single light diode assembly including a plurality of orientated junctions.

26. (Currently Amended) An electromagnetic radiation therapy system according to Claim 22 wherein the gas discharge device may include a mixture of gases which will give an output at the desired wavelength centered at~~, or about,~~ 1072 nm or 1268 nm.

27-30. (Canceled)